

Child Pedestrian Fatalities in Los Angeles

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THE PROBLEM of childhood accidents, although receiving increased attention, is far from solved. In a recent period of one year, admissions due to accidents made up 16 per cent of all admissions to the pediatric wards of a general hospital in Los Angeles. Most of these children had been injured in traffic accidents.

A particularly tragic group of traffic accidents is composed of injuries to child pedestrians. With an eye toward development of better preventive methods, the Bureau of Maternal and Child Health of the Health Department of the State of California decided to investigate this particular problem.

With the cooperation of the Traffic Services Division of the Los Angeles City Police Department and the Coroner's Office of Los Angeles County, a survey was undertaken of the case histories of child pedestrians who died in traffic accidents within Los Angeles City limits during the years 1952 through 1955. During this four-year period there were 12,902 pedestrians of all ages involved in traffic accidents, of which 4 per cent or 563 ended fatally.¹ Eighty-five of those who died were children aged 14 years and under (see Table 1).

Case records of 81 of the 85 child pedestrians (bicyclists also included) obtained from the police files were reviewed in an attempt to clarify the circumstances of the accidents. Data available from the records included information obtained by the investigating police officer at the scene of the accident, with statements of the participants and witnesses, a scaled diagram of the location, a description of pedestrian action, driver action, driver violation, sobriety of driver, traffic control, weather, lighting, vehicle condition, vision obscurement and character of the road. Also included was the result of the coroner's inquest, if any, with the decision of the coroner's jury as to whether the driver of the car was believed to be criminally responsible, and a statement as to the final disposition of the case.

Age of Victims

The problem of child pedestrian fatalities appears to be largely concerned with preschool and early elementary school-aged children. There were over twice as many fatalities in the group age 6 years and

• In an analysis of information concerning 81 child pedestrians killed in traffic accidents in the city of Los Angeles during a recent five-year period it was observed that the majority of children were preschoolers playing near their residences but without adult supervision. In most instances the action of the child and not the driver of the vehicle was responsible for the accident. Among school age child fatalities, improper handling of a bicycle was commonly to blame.

TABLE 1.—Pedestrian Accidents in Los Angeles City

	1952	1953	1954	1955	Totals
Injured—all ages	3,285	3,317	3,133	3,167	12,902
Deaths—all ages	140	128	142	153	563
Deaths—0 to 14 years....	25	14	26	20	85
Bicycle rider deaths— (0 to 14 years)	3	2	5	5	15

TABLE 2.—Kind of District in Which Traffic Accidents Fatal to Pedestrian Children Occurred

	No. Cases
Residential	53
Business—shopping	18
Industry—manufacturing	2
Country	4
School	1
Multiple dwelling	1
Other	2
Total	81
Parking lot	3
Sidewalk, yard or driveway.....	9
Total	12

under as in the group 7 to 14 years of age. Fifteen of the older age group were bicyclists.

Sex of Victims

Boys were involved in fatal accidents almost twice as frequently as girls, a fact which is in agreement with data observed in other surveys.

Type of District

Fifty-three fatal accidents occurred in residential areas as compared with 20 in business, shopping and industrial areas (Table 2). Only one death occurred

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TABLE 3.—Time of Day Traffic Accidents Fatal to Pedestrian Children Occurred

No. Cases		No. Cases	
LIGHT		DARK	
8 a.m.	5	5 p.m.	4
9 a.m.	1	6 p.m.	5
10 a.m.	7	7 p.m.	4
11 a.m.	3	8 p.m.	2
Noon	5	9 p.m.	1
1 p.m.	4	10 p.m.	0
2 p.m.	10	11 p.m.	1
3 p.m.	14		
4 p.m.	4	Total	17
5 p.m.	11		
Total	64		

TABLE 4.—Data on Supervision of Pedestrian Children Killed in Traffic Accidents

No. Cases	
Alone	35 (17 were under 5 years)
With parent(s)	15
With other adult	5
With other children	25

in the vicinity of a school, the area in which there is the greatest concentration of children during certain periods of the day. Twelve children were killed in areas which might normally be thought to afford some protection—for example, sidewalks, yards or driveways.

Time of Day

The majority of accidents occurred during the daylight hours when children are most likely to be at risk on the street (Table 3).

Supervision of Child

From an analysis of the witness reports, it was possible to determine who was with the child at the time of the accident. Thirty-five of the children, 17 of them in the age group 1 to 4 years, were believed to have been alone at the time of the accident. Twenty children were with their parents or another adult and 25 were with other children (Table 4).

Primary Cause of Accident

It was possible on the basis of the police reports to divide the accidents roughly into two types—one in which the action of the driver was primarily responsible for the fatality, and another in which the pedestrian action was primarily responsible (Table 5). In only 23 of the 81 cases was the driver responsible. Reckless or inept driving, excessive speed, backing carelessly, defective vehicle and violation of pedestrian right-of-way in a cross-walk were primary causes of only a small group of fatalities.

TABLE 5.—Primary Cause of Vehicular Accidents in Which Pedestrian Children Were Killed

No. Cases	
Driver action:	
Reckless or inept driving.....	7
Excessive speed	4
Backing carelessly	4
Defective vehicle	3
Violation of pedestrian right of way.....	3
Runaway vehicle	2
Total	23
Pedestrian action:	
Running into street.....	26
Crossing carelessly	9
Playing in street	5
Riding bike carelessly.....	11
Total	51

TABLE 6.—Data on Age, Sex and Responsibility of Driver in Cases of Pedestrian Children Killed in Vehicular Accidents

Age of Driver	Male	Female	Criminally Responsible
0 to 10 years.....	2	—	—
11 to 20 years.....	10	1	2
21 to 30 years.....	19	6	3
31 to 40 years.....	17	6	2
41 to 50 years.....	9	—	1
51 to 60 years.....	5	2	1
61 to 70 years.....	3	1	2
Totals	65	16	11

ties. The child was at fault in the majority of accidents, either running into the street (often darting from between parked cars), crossing carelessly, playing in the street or riding a bicycle carelessly. It was of interest that in every instance of a bicycle fatality the child was at fault, either due to inept handling of the bicycle, "riding double," not stopping at a boulevard stop or speeding out of an alley onto a busy street.

Information Concerning the Drivers

Most of the drivers of vehicles involved in fatal child pedestrian accidents were young people (Table 6). They were in their teens, twenties, and thirties—at an age when reflexes and visual acuity might be expected to be at the optimum. There were three children drivers under the legal age limit even for learner's permits. One 13-year-old girl struck and killed a child while driving her mother to the market. She habitually drove the family car because the mother was not able to get a driver's license. Another 8-year-old struck and killed his own brother while being instructed by his father in the handling of a car. In only one case was there a statement that the driver had been drinking and was under the influence of alcohol. The fact that there were 65 male

TABLE 7.—Data on Type of Vehicle Involved in Accidents Fatal to Pedestrian Children

	No. Cases
Passenger car	62
Truck	17
Bus	1
Motorcycle	1
Total	81

drivers and 16 female drivers involved in fatal pedestrian accidents can only be interpreted in the light of the proportionately greater total number of male driving hours.

In the opinion of the investigating police officers and the coroner's jury, only 11 drivers were held criminally responsible and therefore subject to legal prosecution for felony or misdemeanor. In ten additional cases the driver was primarily at fault but circumstances were such that no definite legal action was indicated.

Type of Vehicle

Most of the vehicles were postwar passenger cars in relatively good operating condition. Three cars, however, had defective brakes or defective steering gear, and one of these was a typical "hot rod." Seventeen were trucks, of which approximately half were delivery trucks being driven in residential areas (Table 7).

Reactions of Driver

Statements of the drivers and witnesses were reviewed to determine the reactions of the driver (Table 8). Half of the drivers saw the children but were unable to stop before hitting them. In 33 instances the drivers did not see the children at any time but were aware of a thumping sensation. One driver thought that he had run over a box in the road and would have continued on his way without stopping except that a passenger riding in his car looked back and saw the injured child. Three drivers left the scene of the accident without being aware that anything had happened and would have been considered as hit-and-run drivers had they not been flagged down by witnesses and then immediately returned to render assistance. There were three actual hit-and-run drivers, two of whom were apprehended later by the police.

Relationship to Vehicle Speed

From the statements of the drivers and the witnesses, an approximation of the vehicle speed immediately preceding the accident was obtained. In some cases, measurement of skid marks, examination of brakes and other methods were employed by the police department to estimate vehicle speed. It can

TABLE 8.—Reactions of Driver in Accidents Fatal to Pedestrian Children

	No. Cases
Saw child but could not stop.....	42
Didn't see child, felt thump.....	30
Didn't know had hit child.....	3
Hit-and-run	3
Miscellaneous	3
Total	81

TABLE 9.—Vehicle Speed in Accidents Fatal to Pedestrian Children

Vehicle Speeds (Miles per Hour)	No. of Vehicles
0 to 10.....	25
11 to 20.....	19
21 to 30.....	17
31 to 40.....	9
41 to 50.....	5
51 to 60.....	1
Total	76

TABLE 10.—Time of Death, After Accident, of Children Fatally Injured by Vehicles

	No. Cases
Died immediately	17
Survival time of others:	
0 to 1 hour.....	31
1 to 8 hours.....	20
8 to 24 hours.....	9
1 to 7 days.....	3
Over 7 days.....	1
Total	81

be seen in Table 9 that most of the vehicles were moving at a speed of under 30 miles an hour at the time of the accident.

Survival Following the Accident

Forty-eight of the 81 children died either instantly or within an hour after the accident, and therefore before adequate definitive medical and surgical treatment could be started. Twenty children lived from one to eight hours after injury. Nine lived from eight to 24 hours and only four children for more than 24 hours (see Table 10).

Cause of Death

The results of the coroner's investigations revealed that cerebral injury was the cause of death in 45 of the cases; cervical cord injury in three of the cases; crushing injuries of the chest in three and of the abdomen in nine. Multiple injuries were listed as the cause of death in 21 cases (see Table 11).

TABLE 11.—Cause of Death in Vehicular Accidents Fatal to Pedestrian Children

	No. Cases
Cerebral injury	45
Cervical cord injury.....	3
Crushing of chest injuries.....	3
Abdominal injuries	9
Multiple injuries	21
Total	81

DISCUSSION

From the foregoing data it appears that the typical child pedestrian killed in a vehicular accident is not, as might be supposed, the victim of a speeding or intoxicated driver. Rather, he is a small child, often of preschool age, who while playing without adequate supervision in front of his home, darts into the path of a moving vehicle. He is often not observed by the driver of the car, perhaps because of his size. Usually he dies of a head injury before adequate medical and surgical treatment can be instituted.

From these data it is apparent that better traffic engineering, more traffic lights and stop signs, or better enforcement of existing traffic laws, will not provide the answer to the problem of child pedestrian fatalities. Perhaps the greatest inroads into the problem will be made by an education program beginning in the Well Baby Clinics and the pediatricians' offices and carried over into the school years by parent-teacher groups.

The fact that so few accidents now occur in the neighborhood of schools does not mean the problem of traffic accidents has been solved by the present traffic control methods in these locations. Rather it may mean that, in concentrating on devices such as yellow cross walks, stop signs and crossing guards,

we may be creating a false sense of security in the child who is thus taught to believe that he may enter and cross safely in any crosswalk without exercising due caution in looking for oncoming cars. In other words, his school crossing experiences have been made artificially safe by intensive efforts on the part of the PTA, and he does not learn self-reliance and the general principle of "look before you leap."

Intensive efforts should be made to educate children in the proper control of bicycles. Children cyclists must be taught to observe traffic regulations, and in no instance should "riding double" be permitted.

In city planning attention should be given to adequate backyard and traffic-free playground areas for children; also to laying sidewalks in new areas where they are now sometimes omitted. The current trend in new Los Angeles subdivisions toward "country estates" on small lots without sidewalks is deplorable, for children must walk in the roadway to visit their playmates.

In the smaller group of accidents in which the driver is primarily to blame, better traffic law enforcement, stiffer penalties, and an increasing program of driver education is indicated.

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REFERENCES

1. Annual Traffic Accident Summary, Los Angeles City Police Department, 1952-1955.

Social Security Footnotes

AMERICAN MEDICINE would do well to study the plight of physicians in Britain and France before accepting financial arrangements that would make them sitting ducks for capture by government.

—From the Department of Public Relations, American Medical Association